Aluminum Capacitors
+125 °C, Non-Polar, Miniature

FEATURES

- Extended temperature range
- Exceptional capacitance stability
- Low DF
- Low DC leakage current
- Tantalum foil replacement
- Axial lead
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb-free Available

QUICK REFERENCE DATA

DESCRIPTION	VALUE
Nominal case size Ø D x L in inches [mm]	0.296 x 1.000 [7.518 x 25.40] to 0.390 x 2.812 [9.906 x 71.425]
Operating temperature	-55 °C to +125 °C
Rated capacitance range, C_R	0.68 µF to 680 µF
Tolerance on C_R	-10 %, +50 %; -10 %, +75 %
Rated voltage range, U_R	7 WV_{DC} to 250 WV_{DC}
Termination	Axial leads
Life validation test 2000 h at +125 °C	ΔCAP < 15 % from initial measurement ΔESR < 1.3 x initial specified limit ΔDCL < initial specified limit
Shelf life 500 h at +125 °C	ΔCAP < 10 % from initial measurement ΔESR < 1.2 x initial specified limit ΔDCL < 2.0 x initial specified limit

RIPPLE CURRENT MULTIPLIERS

TEMPERATURE				
AMBIENT TEMPERATURE			MULTIPLIERS	
+100 °C			1.5	
+85 °C			2.0	
+65 °C			2.5	
FREQUENCY (Hz)				
WV_{DC}	50 TO 60	100 TO 120	300 TO 400	> 100K
6 to 60	0.85	1.0	1.10	1.15
61 to 250	0.83	1.0	1.15	1.20

LOW TEMPERATURE PERFORMANCE

CAPACITANCE: The maximum allowable capacitance change with temperature from +25 °C shall be in accordance with the following:

RATED VOLTAGE AT +125 °C	PERCENT CAPACITANCE CHANGE AT		
	-55 °C	+85 °C	+125 °C
5 to 15	-30	+15	+20
20 and up	-25	+15	+20

DIMENSIONS in inches [millimeters]

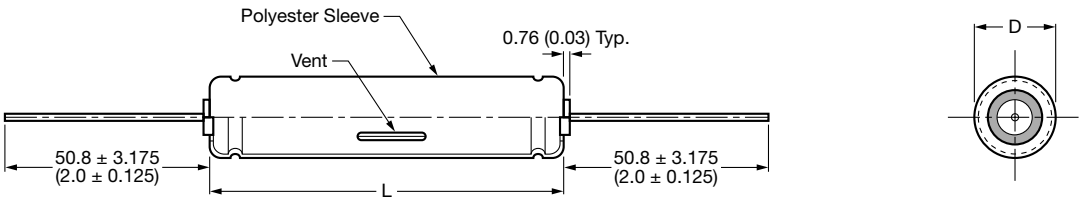
CASE CODE	WITH OUTER INSULATION		
	DIAMETER	LENGTH (1) (max.)	TYPICAL WEIGHT (g)
KD	0.297 ± 0.031 [7.54 ± 0.79]	1.000 [25.40]	1.90
DE	0.390 ± 0.031 [9.92 ± 0.79]	1.187 [30.16]	3.90
DU	0.390 ± 0.031 [9.92 ± 0.79]	1.500 [38.10]	4.90
DL	0.390 ± 0.031 [9.92 ± 0.79]	2.187 [55.56]	7.00
DR	0.390 ± 0.031 [9.92 ± 0.79]	2.812 [71.42]	8.60

Note

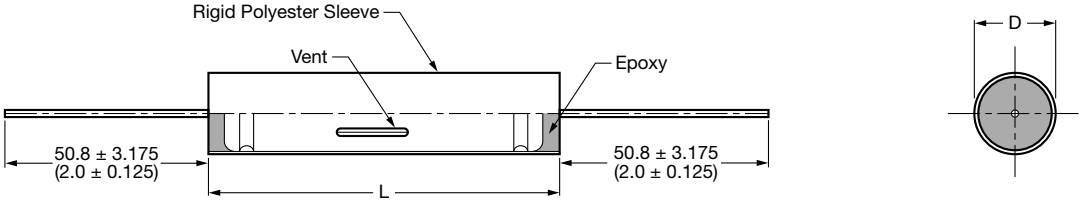
(1) Style 2. For style 5, increase the maximum length by 0.125" [3.18 mm].

DIMENSIONS AND AVAILABLE FORMS

Style 2



Style 5



Lead diameter
No. 20 AWG (0.032" [0.813 mm] Dia.)

PART NUMBER INFORMATION

610D	476	F	007	KD	2
TYPE	**CAPACITANCE**	**CAPACITANCE TOLERANCE**	**DC VOLTAGE RATING**	**CASE CODE**	**CASE STYLE**
Identifies the series name.	Expressed in pF. The first two digits are significant figures. The third is the number of zeros.	F = -10 % / +50 % G = -10 % / +75 %	Expressed in volts. Zeros are used to precede the voltage rating (i.e. 007 = 7 V).	See table Dimensions	2 = polyester sleeve (std.) 5 = polyester sleeve with resin end seal (required for exposure to halogenated cleaning solvents)

Note

- For lead (Pb)-free / RoHS compliant products add suffix “E3” to part number.
  Example: 610D105F200KD2E3

Statements about product lifetime are based on calculations and internal testing. They should only be interpreted as estimations. Also due to external factors, the lifetime in the field application may deviate from the calculated lifetime. In general, nothing stated herein shall be construed as a guarantee of durability.

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